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AUTHOR Howlett, S. C.; Stennett, R. G.
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ABSTRACT

The early Intervention Subcommittee of the London (Ontario) kindergarten through grade six Curriculum Committee was asked to develop recommendations for the early identification and remediation of children likely to experience difficulties in the acquisition of reading skills. The subcommittee decided to try what appeared to be some of the best representatives of a broad range of theoretical and practical positions regarding early identification and intervention. Six screening strategies and seven intervention systems were chosen. It is believed that the results of this project will permit selection of the most practical and promising combinations of identification and intervention systems for more rigorous empirical examination in the second phase of the project. (An outline of the proposed experimental design, a list of the approaches and their definitions, and a selected bibliography are attached.) (RL)

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THE DEVELOPMENT OF AN EARLY INTERVENTION SYSTEM: A PILOT STUDY

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S. C. Howlett, Ph.D. and R. G. Stennett, Ph.D.
Board of Education
London, Ontario

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The report of the Commission on Children With Emotional and Learning Disorders (CELDIC, 1970) suggests that approximately 10% of school age children will experience difficulty in learning to read. This estimate of incidence is substantiated by a number of research studies and has profound implications for the educational community.

Early identification and remediation of developmental disorders is essential for many reasons, among which three are critical. First, the emotional and behavioural problems which are secondary to failure and chronic frustration in school would be reduced, thus lessening the need for treatment of such disorders. Second, early intervention is more effective than later remediation and this results in a lessened demand for the services of special education personnel. Third, as an obvious consequence of the above, it is cost efficient.

An extensive review of the literature indicates that there is, as yet, no adequately reliable and valid method of early identification. Hence there is a need for careful evaluation of a variety of approaches and/or instruments which appear most likely to discriminate "high risk" from "low risk" children. Examples of methods which have been developed range from teacher ratings (Barretta, 1976) to highly elaborate and expensive screening procedures such as those found in Windsor (O'Bryan, 1976).

A second problem is that relatively little energy has been directed to the development of effective remedial interventions for identified students, particularly mainstreaming approaches. An exception is a North York study which indicated that the treatment of kindergarten children identified as "at risk" resulted in a significant improvement in reading skills and self-concept by the third grade, and thus probably a reduction of secondary disorders (Virgin, 1974).

The pilot study outlined here is designed to determine the most suitable means for the early identification and remediation of those children in the London Public School System who are likely to experience difficulties in the acquisition of reading skills. It is a one-year project which should be followed by a more intensive two-year study.

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Research Design

Although the first phase of this project is regarded as a pilot, clinical-level investigation, it has been planned to yield as much hard data as possible on: (a) the reliability and cost-effectiveness of six screening systems for identifying high-risk kindergarten and grade one

children and (b) the feasibility, costs and relative effectiveness of seven proto typical intervention programs in first grade classes.

Selection and Matching of Samples

Fourteen schools have been selected for this study. Three criteria were used in choosing them. First, each participating school had to be clearly willing to be involved in the project. Second, core-area-type schools were given priority. Third, each "experimental" school was matched with a "control" school on the basis of the profiles utilized in the Resource Allocation Formula.

Figure 1 outlines the overall design.

Selection of Screening Systems and Interventions

The screening systems were selected from a large number currently available. There were three criteria for selection. First, they were to represent a wide variety of theoretical and practical positions. Second, they were to lend themselves to use by a classroom teacher with minimal need for assistance. Third, they were to have reasonable empirical support (e.g.: Barretta, 1976; Bryan and McGrady, 1972; Medvedeff, 1966).

Three criteria were also used in the selection of intervention systems. First, the interventions should represent a variety of theoretical points of view. Second, the interventions should vary in terms of method of delivery, e.g., by the classroom teacher to all or part of a class, by a Learning Resource Teacher to part of class, by a Special Services Team, etc. Finally, to the extent possible, each intervention was to have a sound empirical base of support (e.g., DISTAR, Becker & Engelman, 1977).

A brief description of the screening and intervention systems is provided in Appendix I.

Data Analysis

Much of the data arising from this project will be of a "clinical" nature and will have to be assessed accordingly.

Data from the more formal research component, outlined in Figure I, will allow the following analyses:

(a) The relative efficacy of each of seven intervention systems can be judged by direct comparisons of the end of grade 1 performance of students who have been exposed to each program. Comparisons can also be made of the degree to which students exposed to each intervention outperform their controls.

(b) The overall impact of intervention can be assessed by comparing the performance of all experimental students with that of all of the control students.

(c) The relative effectiveness of the six screening techniques can be assessed by relating the screening results to the end of kindergarten and end of grade one performance for the appropriate groups of control students.

Summary

The Early Intervention Sub-Committee of the K-6 Curriculum Committee has been asked to develop recommendations for the early identification and remediation of children likely to experience difficulties in the acquisition of reading skills. There are many competing points of view as to how best to do this. This study is a first step in defining the most efficient and effective programmes.

Given the support in the system for a pilot project, considerable study has been given to a wide variety of approaches. The present project is a result of this study.

It has been decided to try what appear to be some of the best representatives of a broad range of theoretical and practical positions regarding early identification (6 in all) and intervention (7 in all). Fourteen schools' kindergarten and/or grade 1 classes have been selected for involvement in the study. It is believed that the results of this project will permit selection of the most practical and promising combinations of identification and intervention systems for more rigorous empirical examination in the second phase of this project.

FIGURE 1 OUTLINE OF EXPERIMENTAL DESIGN

Grade 1					
	Schools	Screening System	Intervention	Group IQ	Post-Test
Experimental	Tecumseh	Teacher Nomination	Distar (LRT, part of class)	Feb. '78	June, '78
	Prince Charles	--	Holt (Teacher, entire class)	"	"
	C.C. Carrothers	Hess	Precision Teaching (Teacher, part of class)	"	"
	Wilton Grove	Language	Language (language teacher, part)	"	"
	Lady Beck	Ottawa	SARI (teacher, entire class)	"	"
	Manor Park	Medvedeff	Medvedeff (teacher & LRT, part class)	"	"
	J. P. Robarts	Myklebust	Team (team, part class)	"	"
Control	Arthur Ford	Teacher Nomination		"	"
	Woodland Heights	--		"	"
	Princess Elizabeth	Hess		"	"
	Sir J.A.Macdonald	Language		"	"
	Lord Elgin	Ottawa		"	"
	Aberdeen	Medvedeff		"	"
	Cleardale	Myklebust		"	"

Kindergarten			
Schools	Screening System	Group IQ	Post-Test
Tecumseh	Teacher Nomination	Feb. '78	June, '78
Prince Charles	---	"	"
C.C. Carrothers	Hess	"	"
Wilton Grove	Language	"	"
Lady Beck	Ottawa	"	"
Manor Park	Medvedeff	"	"
J. P. Robarts	Myklebust	"	"

APPENDIX I

BRIEF DEFINITIONS OF APPROACHES BEING UTILIZED IN THE PROJECT

SCREENING

Teacher Nomination - a teacher rank orders children in terms of how successful she feels they will be in acquiring reading skills and lists whatever type of problem she feels a given student will have.

The Hess School Readiness Scale - a brief, individually administered test which samples a variety of skill areas.

Language Screening - a device used to detect language disorders (developed by Rhea Stewart).

Ottawa School Behaviour Checklist - an objective instrument which focuses on behavioural and emotional symptoms.

Medvedeff's *Early Identification Screening Inventory* - focuses on visual-perceptual-motor, affective and language symptoms.

Myklebust's *The Pupil Rating Scale-Screening for Learning Disabilities* - a device by means of which a teacher evaluates a student in the areas of social-emotional, language, and perceptual-motor-functioning.

INTERVENTIONS

Distar Reading I - a highly structured, behavioural, reading programme; emphasis on "cracking the code".

Holt-Rinehart, "Language Patterns" - a multi-sensory reading programme with an emphasis on phonics.

Precision Teaching - a highly structured, behavioural programme which relies on continuous measurement and charting of a child's progress.

Language Experience - a language programme which is being developed by Rhea Stewart.

SARI - Systematic Approach to Reading Instruction - a criterion-referenced-testing or mastery approach to teaching selected basic skills.

Medvedeff's *Child* - a diagnostic, prescriptive and perceptual-motor remedial programme.

Team - referral of high-risk students to the school's Special Services Team.

SELECTED BIBLIOGRAPHY

Adelman, H. & Feshbach, S. Predicting reading failure: Beyond the readiness model. *Exceptional Children*, 1971, 1, 349-354.

Barretta, N. Predicting kindergarten achievement in Torrance, California. *The School Psychologist*, 1976, February, 3-4.

Becker, W. C. & Engelman, S. *The Oregon direct instruction model: Comparative results in Project Follow Through.* University of Oregon, 1977.

Brenner, A. Nature and meaning of readiness for school. *Merrill-Palmer Quarterly*, 1957, April, 114-135.

Brenner, A. & Morse, N. The measurement of children's readiness for school. *Papers of the Michigan Academy of Science, Arts, and Letters*, 1956, 61, 333-340.

Bryon, T. S. & McGrady, H. J. Use of a Teacher Rating Scale. *Journal of Learning Disabilities*, 1972, 5(4), 26-33.

Brown, A., et al. *The Toronto Early Identification and Developmental Program.* The Board of Education for the City of Toronto, 1974.

CELDIC Report: One Million Children. Commission on Emotional and Learning Disorders in Children. Ottawa, 1970.

Chalfant, J. & Scheffelin, M. *Central Processing Dysfunctions in Children: A Review of Research.* United States Department of Health, Education & Welfare, 1969.

Denhoff, E., et al. Developmental and predictive characteristics of items from the Meeting Street School Screening Test. *Developmental Medicine and Child Neurology*, 1968, 10(2), 220-232.

Middlesex-London District Health Unit. *Early childhood screening programme, Annual Report.* Middlesex-London District Health Unit, London, Ontario, 1975.

Early detection of learning disabilities. *OSSE News*, 1976, September, 11-12.

Garber, H. Measuring differential development in young children. Unpublished Manuscript, University of Wisconsin, 1971.

Glavin, J. Persistence of behavior disorders in children. *Exceptional Children*, 1972, January, 367-376.

Hardy, M., Stennett, R. & Smythe, P. Development of auditory and visual language concepts and relationship to instructional strategies in kindergarten. Althouse College, University of Western Ontario, 1974.

Hinton, G. & Knights, R. Children with learning problems: Academic history, academic prediction, and adjustment three years after assessment. *Exceptional Children,* 1971, March, 513-519.

Keogh, B. & Becker, L. Early detection of learning problems: questions, cautions, and guidelines. *Exceptional Children,* 1973, September, 5-11.

Kermoian, S. Teacher appraisal of first grade readiness. *Elementary English,* 1962, March, 196-201.

Kirk, W. A tentative procedure for selecting bright and slow children in kindergarten. *Exceptional Children,* 1966, December, 235-241.

Lerner, J. *Children With Learning Disabilities: Theories, Diagnosis, Teaching Strategies.* Boston: Houghton, Mifflin Co., 1971.

Lindemann, E. Predicting school adjustment before entry. *Journal of School Psychology,* 1967, 6(1), 24-43.

Magliocca, L., et al. Early identification of handicapped children through a frequency sampling technique. *Exceptional Children,* 1977, April, 414-420.

Mardell, C. & Goldenberg, D. For prekindergarten screening information: DIAL. *Journal of Learning Disabilities,* 1975, 8(3), 18-25.

McKnab, P. & Fine, M. The Vane Kindergarten Test as a predictor of first grade achievement. *Journal of Learning Disabilities,* 1972, 5(8), 57-59.

McNeil, T. & Wiegerink, R. Diagnostic categories and obstetric complication histories in disturbed children. *Exceptional Children,* 1971, June, 751-752.

Medvedeff, E. & Dearth, B. *New Dimensions in Learning: Physiological and Preventive Practices in Modern Education.* Akron, Ohio: Prescriptive Educational Systems, 1969.

Mussen, P., Conger, J. & Kagan, J. *Child Development and Personality,* New York: Harper & Row, 1974.

Nelson, J., et al. *The Edmonton Preschool Screening Project.* Edmonton, Alberta, 1976.

O'Bryan, K. *The Windsor Early Identification Project.* Ministry of Education, Ontario, 1976.

Ozehosky, R. & Clark, E. Verbal and non-verbal measures of self-concept among kindergarten boys and girls. *Psychological Reports,* 1971, 28, 195-199.

Report on the predictive ability of the Clymer-Barrett Prereading Battery. Oxford County, Ontario, Board of Education, 1976.

Rubin, R. & Balow, B. Learning and behavior disorders: A longitudinal study. *Exceptional Children,* 1971, December, 293-299.

Senf, G. & Comrey, A. State initiative in learning disabilities: Illinois project SCREEN. *Journal of Learning Disabilities,* 1975, 8(7), 1-7.

Snyder, R. & Pope, P. Auditory and visual inadequacies in maturation at the first grade level. *Journal of Learning Disabilities,* 1972, 5(10), 40-45.

Spollen, J. & Ballif, B. Effectiveness of individualized instruction for kindergarten children with a developmental lag. *Exceptional Children,* 1971, November, 205-209.

Stennett, R. G. Chances are he won't grow out of it. *General Practioner,* 1967, 35(5), 78-84.

Virgin, A. A study of kindergarten teachers' predictions of their pupils subsequent performance and the effects of an intervention program at the grade 1 level. Paper presented to O.E.R.C., Toronto, 1974.

Warren, J. Found: long-term gains from early intervention. *APA Monitor,* 1977, April, 8.

Wynne, V. *A review of Operation Earlybird.* Nashville, Tennessee Board of Education, 1973.